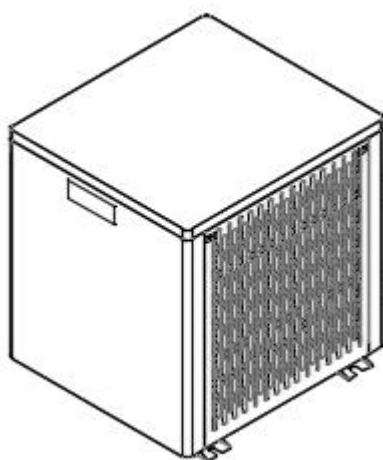




Mini Pool Heat Pump

User and Service manual



Regulation (EU) n° 517/2014 of 16/04/14 on fluorinated greenhouse gases and repealing Regulation (EC) n° 842/2006

Leak checks

1. Operators of equipment that contains fluorinated greenhouse gases in quantities of 5 tons of CO₂ equivalent or more and not contained in foams shall ensure that the equipment is checked for leaks.
2. For equipment that contains fluorinated greenhouse gases in quantities of 5 tons of CO₂ equivalent or more, but of less than 50 tons of CO₂ equivalent: at least every 12 months.

Picture of the equivalence CO₂

1. Load in kg and Tons amounting CO₂.

Load and Tons amounting CO₂	Frequency of test
From 2 at 30 kg load = from 5 at 50 Tons	Each year

Concerning the Gaz R32, 7.4kg amounting at 5 tons of CO₂, commitment to check each year.

Training and certification

1. The operator of the relevant application shall ensure that the relevant personnel have obtained the necessary certification, which implies appropriate knowledge of the applicable regulations and standards as well as the necessary competence in emission prevention and recovery of fluorinated greenhouse gases and handling safety the relevant type and size of equipment.

Record keeping

1. Operators of equipment which is required to be checked for leaks, shall establish and maintain records for each piece of such equipment specifying the following information:
 - a) The quantity and type of fluorinated greenhouse gases installed;
 - b) The quantities of fluorinated greenhouse gases added during installation, maintenance or servicing or due to leakage;
 - c) Whether the quantities of installed fluorinated greenhouse gases have been recycled or reclaimed, including the name and address of the recycling or reclamation facility and, where applicable, the certificate number;
 - d) The quantity of fluorinated greenhouse gases recovered
 - e) The identity of the undertaking which installed, serviced, maintained and where applicable repaired or decommissioned the equipment, including, where applicable, the number of its certificate;
 - f) The dates and results of the checks carried out;
 - g) If the equipment was decommissioned, the measures taken to recover and dispose of the fluorinated greenhouse gases.
2. **The operator shall keep the records for at least five years, undertakings carrying out the activities for operators shall keep copies of the records for at least five years.**


Pool Heat Pump

User and Service manual

INDEX

1. Specifications
2. Dimension
3. Installation and connection
4. Electrical Wiring
5. Display Controller Operation
6. Maintenance

Thank you for using splash heater for your pool heating, it will heat your pool water and keep the constant temperature when the air ambient temperature is above -5 °C

 **ATTENTION: This manual includes all the necessary information with the use and the installation of your heat pump.**

The installer must read the manual and attentively follow the instructions in implementation and maintenance.

The installer is responsible for the installation of the product and should follow all the instructions of the manufacturer and the regulations in application. Incorrect installation against the manual implies the exclusion of the entire guarantee.

The manufacturer declines any responsibility for the damage caused with the people, objects and of the errors due to the installation that disobey the manual guideline. Any use that is without conformity at the origin of its manufacturing will be regarded as dangerous.



WARNING:

Do not use means to accelerate the defrosting process or to clean, Other than those recommended by the manufacturer.

The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater.)

Do not pierce or burn.

Be aware that refrigerants may not contain an odour.

Appliance shall be installed, operated and stored in a room with a floor area larger than X m².

NOTE The manufacturer may provide other suitable examples or may provide additional information about the refrigerant odour.

WARNING: Please always empty the water in heat pump during winter time or when the ambient temperature drops below 0°C, or else the Titanium exchanger will be damaged because of being frozen, in such case, your warranty will be lost.

WARNING: Please always cut the power supply if you want to open the cabinet to reach inside the heat pump, because there is high voltage electricity inside.

WARNING: Please well keep the display controller in a dry area to protect the display controller from being damaged by humidity.

1. Specifications

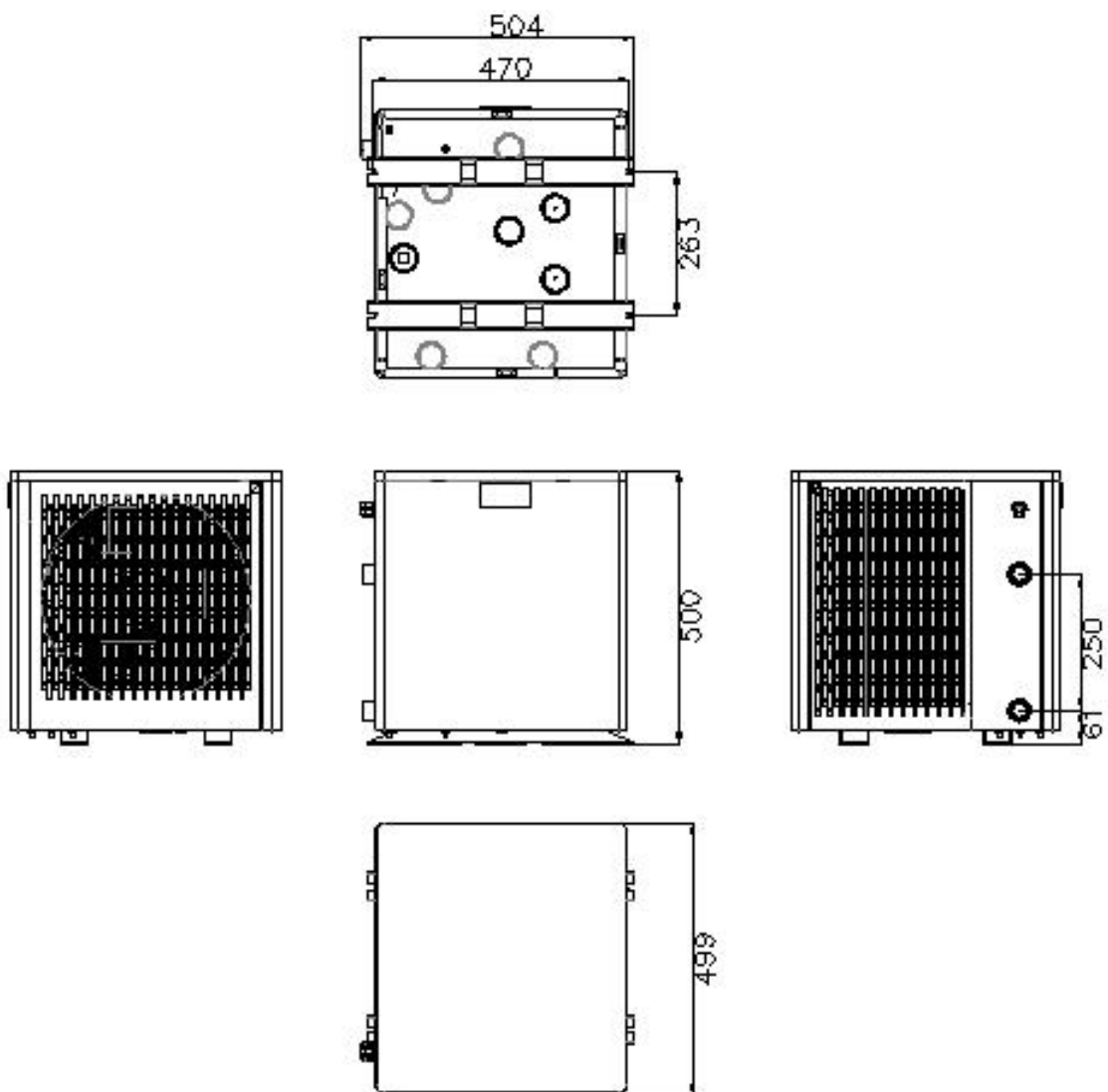
1.1 Technical data pool heat pumps

Mini Compact swimming pool heat pump				
Product model		PW012-KZXYC-F	PW015-KZXYC-F	
Advised pool volume (m ³) (with cover)		12~22	15~25	
Heating operating ambient temperature range (°C)		-5 ~43		
Cooling operating ambient temperature range (°C)		10 ~43		
Parameters	heating*	Heating capacity (kW)	4.5	5.5
		Heating capacity (BTU/h)	15300	18700
		Input power (kW)	0.83	1.02
		COP	5.4	5.4
	heating**	Heating capacity (kW)	3.3	3.9
		Heating capacity (BTU/h)	11050	13328
		Input power (kW)	0.81	0.98
		COP	4.0	4.0
	Cooling capacity (kW)		2.6	3.3
	Rated current(A)		3.50	4.30
	Advised water flux (m ³ /H)		1.7-2.2	2.0-2.5
	IP Grade (Level of protection)		IPX4	IPX4
	Anti-electric shock Rate		I	I
	Noise (dB(A)) in 1 meter		≤47	≤48
Net weight/Gross weight(kg)		33/36	34/37	
Diameter of pipe (mm)		φ32	φ32	
Standard Configuration	Metel plate		Metal Casing	Metal Casing
	Body size(W*D*H) mm		504x 499 x 500	504x 499 x 500
	Refrigerant		R32/320g	R32/380g
	Power supply		220 ~240V/1 Ph/50Hz	220 ~240V/1 Ph/50Hz
	Condenser		Titanium in PVC	Titanium in PVC
	Controller		Single System (Motorola Chip)	Single System (Motorola Chip)
Remark:heating*: working condition, Inlet water temperature 26°C, Outlet water temperature 28°C, Dry bulb temperature 27°C.Humidity 80%. heating**: working condition, Inlet water temperature 26°C, Outlet water temperature 28°C, Dry bulb temperature 15°C. Humidity 70%. Cooling:working condition, Inlet water temperature 28°C, Dry bulb temperature 35°C.Humidity 80%.				

2. Dimension (mm)

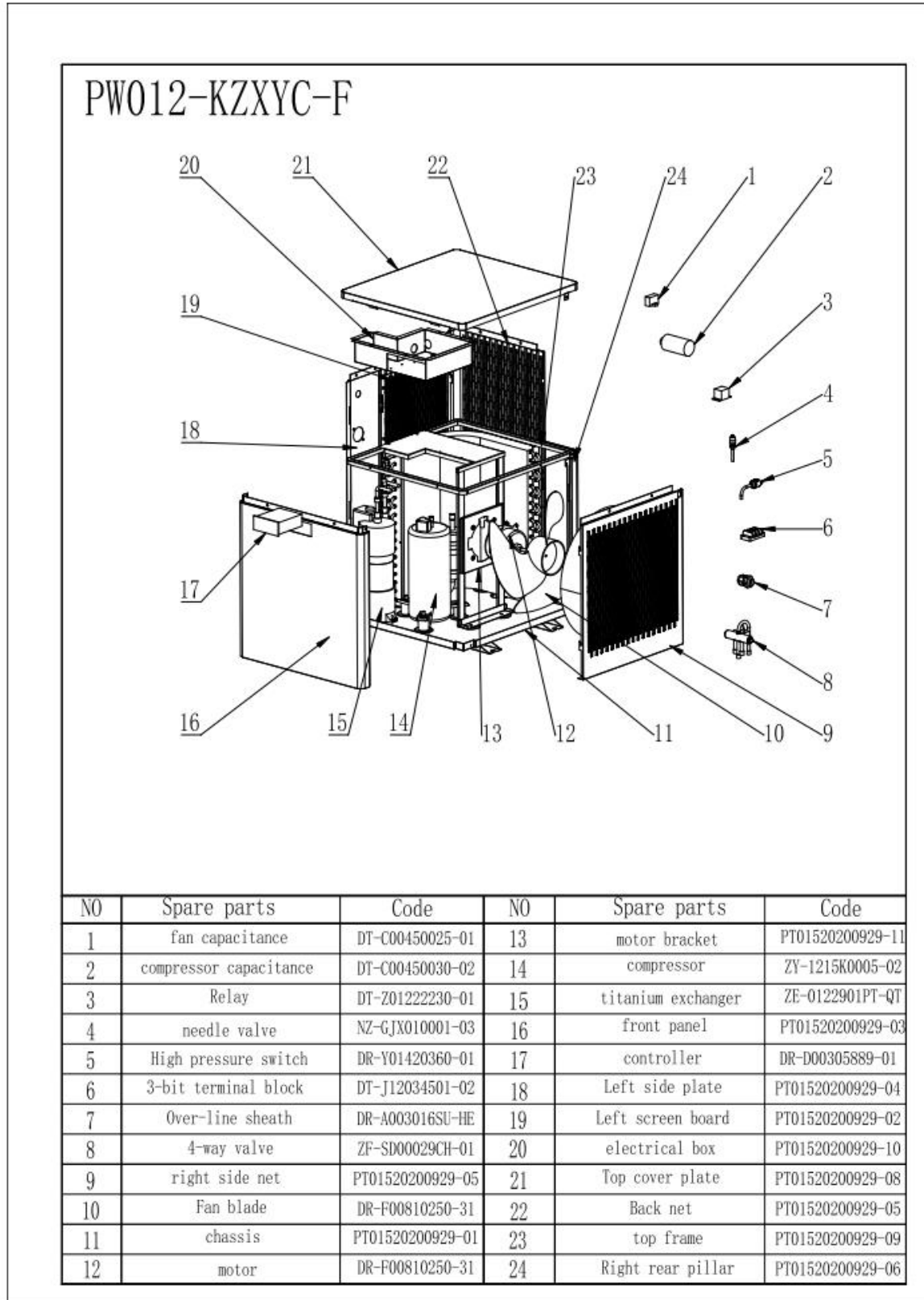
2.1 PW012-KZXYC-F/PW015-KZXYC-F

unit:mm

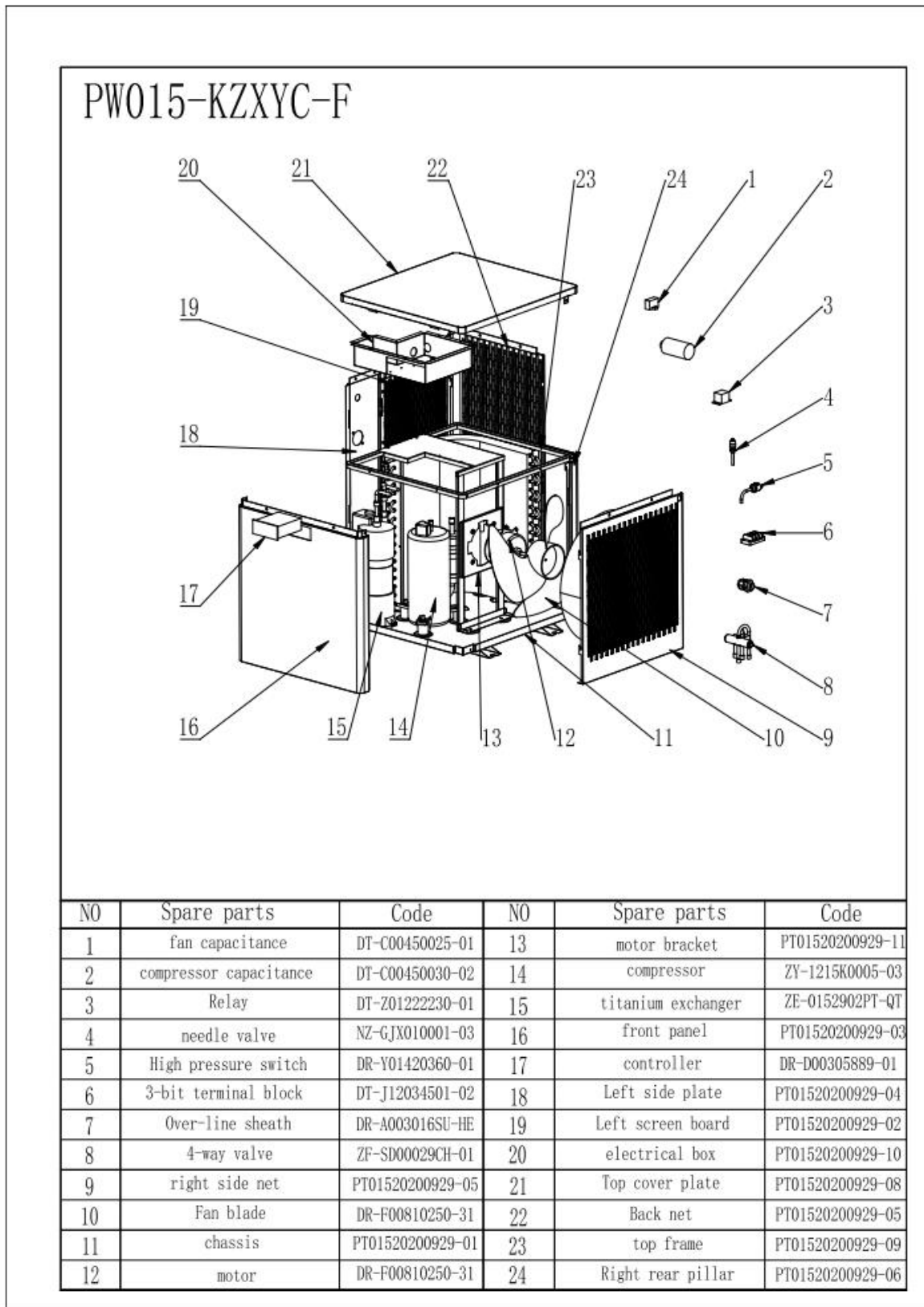


2.2 Exploded views

PW012-KZXYC-F



PW015-KZXYC-F



3. Installation and connection

3.1 Notes

The factory supplies only the heat pump. All other components, must be provided by the user or the installer.

Install a bypass if the water flow from the swimming pool pump is more than 20% greater than the allowable flow through the heat exchanger of the heat pump.

Always place the heat pump on a solid foundation and use the included rubber mounts to avoid vibration and noise.

Always hold the heat pump upright. If the unit has been held at an angle, wait at least 24 hours before starting the heat pump.

3.2 Heat pump location

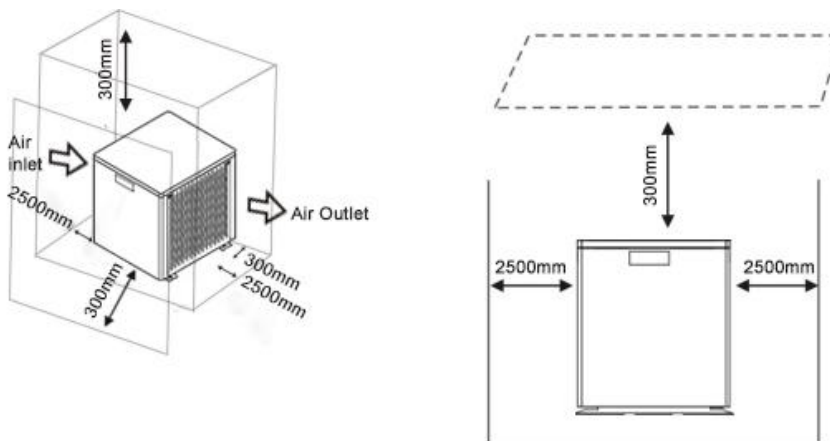
The unit will work properly in any desired location as long as the following three items are present:

1. Fresh air
- 2. Electricity
- 3. Swimming pool filters

The unit may be installed in virtually any **outdoor** location as long as the specified minimum distances to other objects are maintained (see drawing below). Please consult your installer for installation with an indoor pool. Installation in a windy location does not present any problem at all, unlike the situation with a gas heater (including pilot flame problems).

ATTENTION: Never install the unit in a closed room with a limited air volume in which the air expelled from the unit will be reused, or close to shrubbery that could block the air inlet. Such locations impair the continuous supply of fresh air, resulting in reduced efficiency and possibly preventing sufficient heat output.

See the drawing below for minimum dimensions.



3.3 Distance from your swimming pool

The heat pump is normally installed within a perimeter area extending 7.5 m from the swimming pool. The greater the distance from the pool, the greater the heat loss in the pipes. As the pipes are mostly underground, the heat loss is low for distances up to 30 m (15 m from and to the pump; 30 m in total) unless the ground is wet or the groundwater level is high. A rough estimate of the heat loss per 30 m is 0.6 kWh (2,000 BTU) for every 5 °C difference between the water temperature in the pool and the temperature of the soil surrounding the pipe. This increases the operating time by 3% to 5%.

3.4 Check-valve installation

Note: If automatic dosing equipment for chlorine and acidity (pH) is used, it is essential to protect the heat pump against excessively high chemical concentrations which may corrode the heat exchanger. For this reason, equipment of this sort must always be fitted in the piping on the **downstream** side of the heat pump, and it is recommended to install a check-valve to prevent reverse flow in the absence of water circulation.

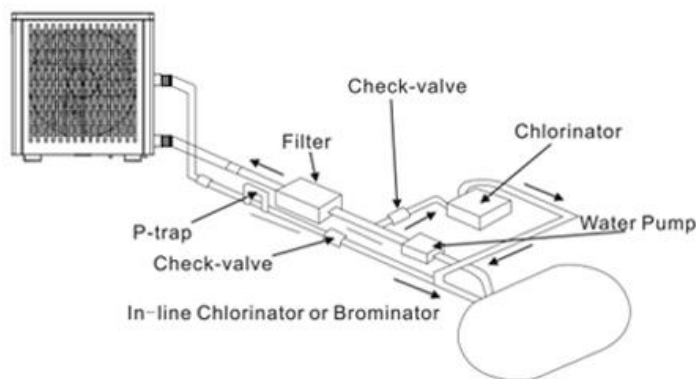
Damage to the heat pump caused by failure to observe this instruction is not covered by the warran

3.5 Electrical connection

Note: Although the heat pump is electrically isolated from the rest of the swimming pool system, this only prevents the flow of electrical current to or from the water in the pool. Earthing is still required for protection against short-circuits inside the unit. Always provide a good earth connection.

Before connecting the unit, verify that the supply voltage matches the operating voltage of the heat pump.

The RCD plug has been included with power cable, which can offer electrical protection.



3.6 Initial operation

Note: In order to heat the water in the pool (or hot tub), the filter pump must be running to cause the water to circulate through the heat pump. The heat pump will not start up if the water is not circulating.

After all connections have been made and checked, carry out the following procedure:

1. Switch on the filter pump. Check for leaks and verify that water is flowing from and to the swimming pool.
2. Connect power to the heat pump, the unit will start up after the time delay expires .
3. After a few minutes, check whether the air blowing out of the unit is cooler.
4. When turn off the filter pump , the unit should also turn off automatically , if not, then adjust the flow switch.

Time delay - The heat pump has a built-in 3-minute start-up delay to protect the circuitry and avoid excessive contact wear. The unit will restart automatically after this time delay expires. Even a brief power interruption will trigger this time delay and prevent the unit from restarting immediately. Additional power interruptions during this delay period do not affect the 3-minute duration of the delay.

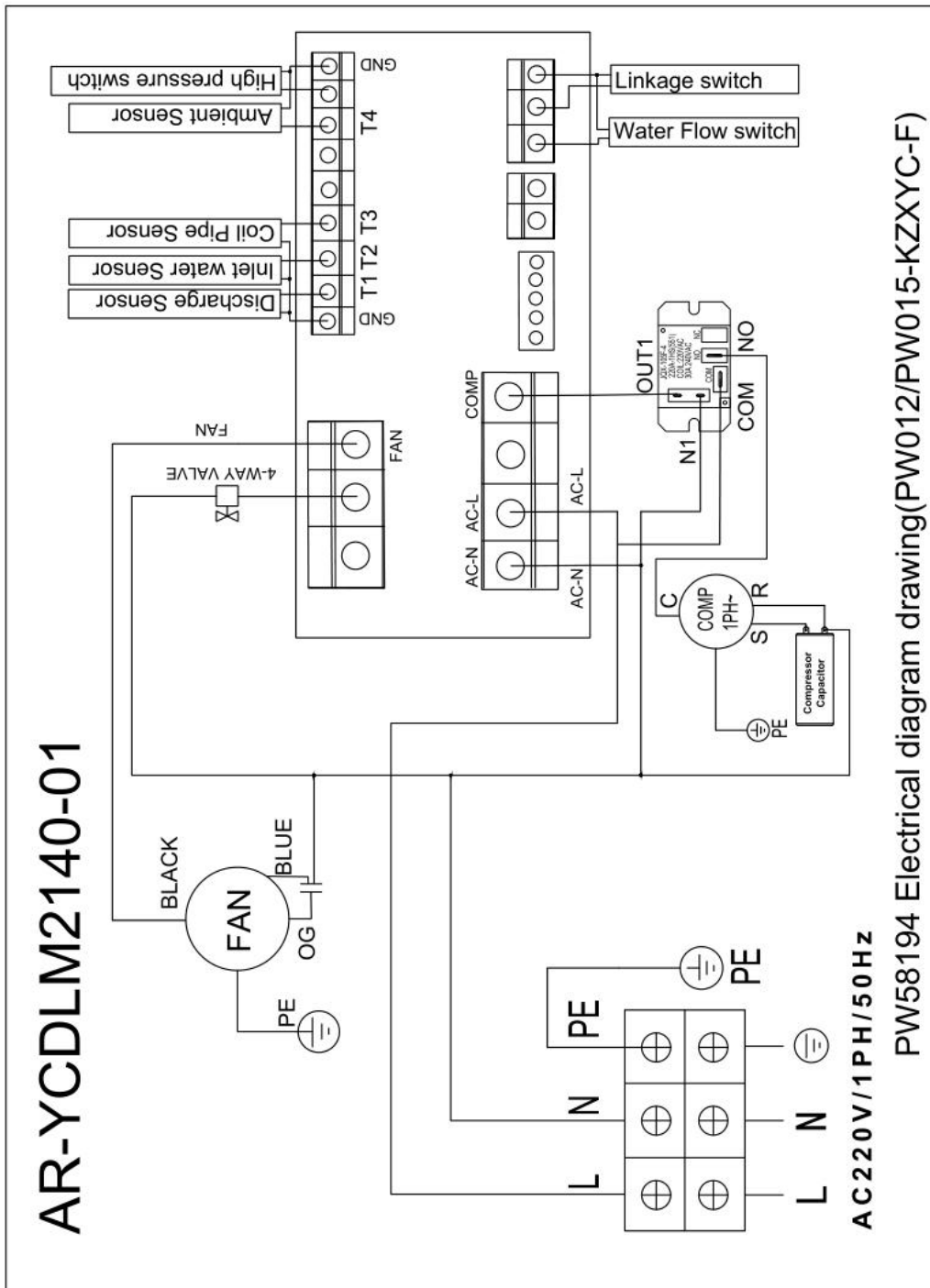
3.7 Condensation

The air drawn into the heat pump is strongly cooled by the operation of the heat pump for heating the pool water, which may cause condensation on the fins of the evaporator. The amount of condensation may be as much as several litres per hour at high relative humidity. This is sometimes mistakenly regarded as a water leak.

4. Electrical Wiring

4.1 SWIMMING POOL HEAT PUMP WIRING DIAGRAM

PW012-KZXCYC-F/PW015-KZXCYC-F



5. Display Controller Operation

5.1 The buttons of LED wire controller:



5.2 Controller display instructions:

The main interface of the shutdown state displays "OFF";

The main interface of the power-on state displays the inlet water temperature;

Display fault code when fault occurs;

LED 1: When cooling, GREEN LED lights up and flashes when defrosting.

LED 2: When heating, RED LED lights up.


5.3 Definition of function key:

On/Off button;  button.

In the main interface, long press this button for 3 seconds to turn on or off;

In the parameter interface, parameter setting interface, press this button to return to the main interface;

Query and Set the Parameters. :  button:

Short press  with 3 Second to Switch Heating or Cooling.

Up and down buttons : "▲" and "▼" buttons.

In the main interface, you can use this button to adjust the current setting temperature;

If you want to set parameters then need Combine with "M" .

5.4 Parameter setting table and Fault code:

Query: Long press the "▲" button for 3 seconds to enter the parameter query state, press the "▲" or "▼" button to query the parameters;

Remarks: The parameter P28 pump working mode selection does not require a password to change the parameters, it is also adjustable in the query parameter interface (press the "M" button to enter the modification state, the parameter value flashes, and the parameter is changed by the "▲" and "▼" buttons . Press the "M" button to exit the modification)

Parameter	Meaning	Range	Default value	Remarks
P01	Return Difference for Target Water Temp.	1°C~18°C	1°C	Adjustable
P02	Reserved	--	--	Adjustable
P03	Reserved	--	--	Adjustable
P04	Cooling set temperature	8°C~28°C	27°C	Adjustable
P05	Heating set temperature	15°C~40°C	27°C	Adjustable
P06	Set temperature that Exhaust temperature too high protection	80°C~125°C	120°C	Adjustable
P07	Exhaust temperature too high to restore the set temperature	50°C~100°C	95°C	Adjustable
P08	Compressor current protection	2A~50A	Reserved	Adjustable
P09	Inlet water temperature compensation	-5°C~15°C	0°C	Adjustable
P10	Defrosting method	0: Compressor 1: fan	0	Adjustable
P11	Defrosting cycle	20MIN~90MIN	45MIN	Adjustable
P12	Defrosting entry temperature	-15°C~-1°C	-3°C	Adjustable
P13	Defrosting time	5MIN~20MIN	8MIN	Adjustable
P14	Defrosting exit temperature	1°C~40°C	20°C	Adjustable
P15	Difference between Ambient Temperature and	0°C~15°C	0°C	Adjustable

	Coil Temperature to Start Defrosting			
P16	Ambient temperature for defrost	0℃~20℃	17℃	Adjustable
P17	Expansion Valve's Working Cycle	20S~90S	30S	Adjustable
P18	Overheat Degree in heating Mode	-5℃~10℃	3℃	Adjustable
P19	Exhaust temperature regulate expansion valve	70℃~125℃	95℃	Adjustable
P20	Expansion valve opening degree during Defrosting	20~450	300	Adjustable
P21	Minimum opening degrees of expansion valve	50~150	80	Adjustable
P22	Expansion valve mode selection	0: Manual 1: Automatic	1	Adjustable
P23	Manual steps of expansion valve	20~480	350	Adjustable
P24	Cooling target superheat	-5℃~10℃	3℃	Adjustable
P25	Ambient temperature too high protection value	--	--	Adjustable
P26	Ambient temperature too low protection value	--	--	Adjustable
P27	Expansion valve working mode in cooling	0:Environment 1: Overheating	1	Adjustable
P28	Working mode of water pump	0:Constant temperature 1:Constant temperature non stop 2: Stop 20 minutes running 3 minutes	0	Adjustable
P29	Model selection	0: Heating and Cooling 1: Heating Only	0	Adjustable

5.5 In the main interface, long press the "▼" button for 3 seconds to enter to view below temperature parameters.

State table

Parameter	Meaning	Range	Display
A01	Inlet water temperature	-30~99℃	Measured value
A02	Reserved		Measured value
A03	Ambient temperature	-30~99℃	Measured value

A04	Exhaust gas temperature	0~125°C	Measured value
A05	Reserved	00	Measured value
A06	Outer coil temperature	-30~99°C	Measured value
A07	Reserved	00	Measured value
A08	Main expansion valve opening degrees	0-480	--
A09	Reserved		Measured value
A10	Compressor current		--

5.6 Fault code

Protection / Error	Code
Water flow failure	E03
Antifreeze in winter	E04
High pressure failure	E05
Low pressure failure	E06
Communication failure	E09
Reserved	E10
Exhaust gas temperature too high protection	E12
Inlet water temperature failure	E15
Outer coil temperature failure	E16
Exhaust temperature failure	E18
Reserved	E20
Ambient temperature failure	E21

Maintenance

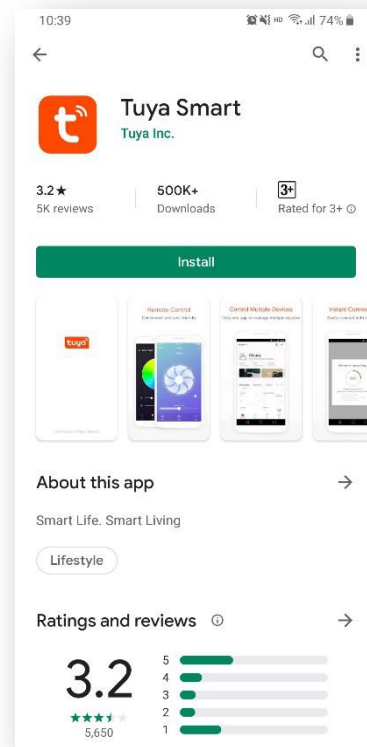
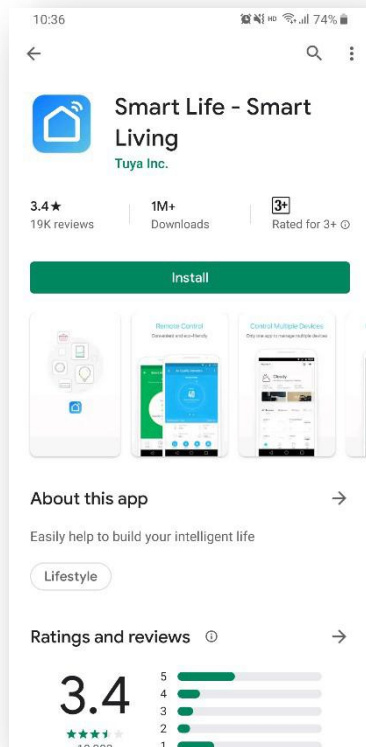
- (1) You should check the water supply system regularly to avoid the air entering the system and occurrence of low water flow, because it would reduce the performance and reliability of HP unit.
- (2) Clean your pools and filtration system regularly to avoid the damage of the unit as a result of the dirty of clogged filter.
- (3) You should discharge the water from bottom of water pump if HP unit will stop running for a long time (specially during the winter season).
- (4) In another way, you should check the unit is water fully before the unit start to run again.
- (5) After the unit is conditioned for the winter season, it is recommended to cover the heat pump with special winter cover.

(6) When the unit is running, there is all the time a little water discharge under the unit

Section 6 WIFI Connection and Operation

APP Download

©Please go to “Google Play Store” or “Apple App Store” and search “Smart Life” or “Tuya Smart” then download. See below figures.



WIFI Connect Method 1: intelligent network distribution mode:

The 1st step:

- ©By default, it can be connected within 10s after the first power-on, and it needs to be connected by pressing buttons after 10 seconds. (10s is the delay for wifi to enter low power consumption)
- ©Manually enter the intelligent network distribution mode: Press "🔌" and "⬆️" button at the same time within 3 seconds , then it will appear “didi” signal that enter into the intelligent network distribution mode. The button light is on and the phone can start to configure the network.
- ©It will exit the network configuration state after 3 minutes, the button light will turn off, and the WIFI module will no longer configure the network. If you want to configure the network again, you need to press the "🔌" and "⬆️"

button again for 3 seconds;

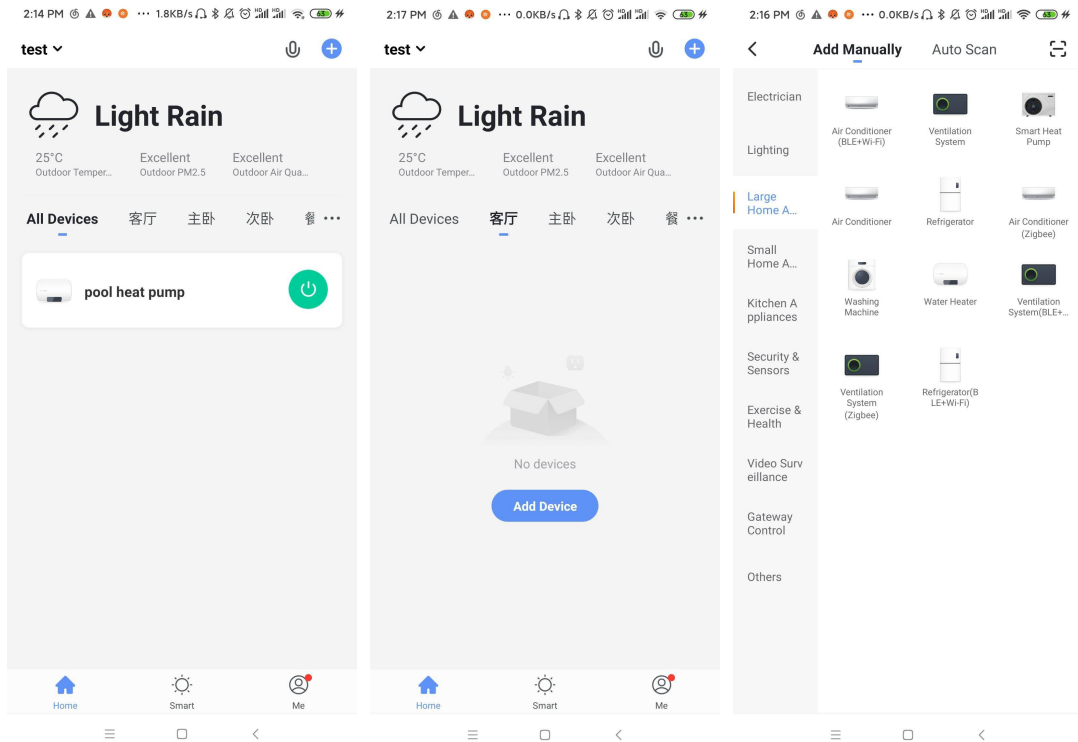
The 2nd step:

© Turn on the WIFI function of the mobile phone and connect to the WIFI hotspot. The WIFI hotspot must be able to connect to the Internet normally, as shown in the figure: Connect the WIFI hotspot "123456789".



The 3rd step:

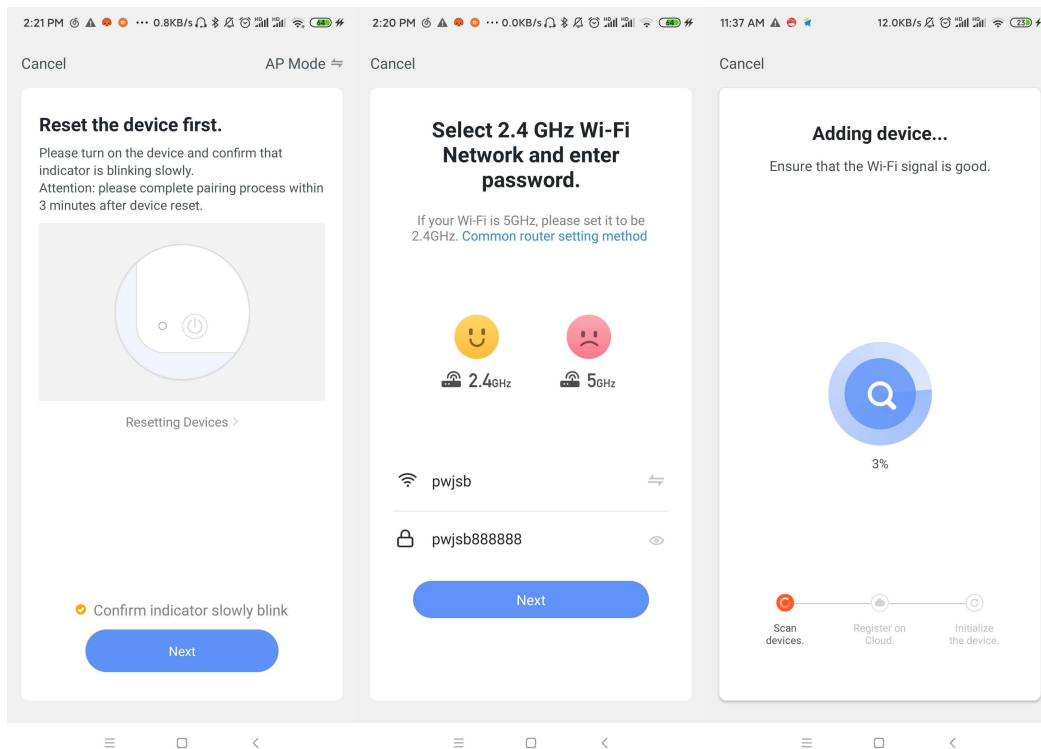
© Open the "Smart Life" APP, log in and enter the main interface, click "+" in the upper right corner or "Add Device" on the interface to enter the device type selection, and select "Water Heater" in the "Large Home Appliance" to enter the add device interface.




The 4th step:

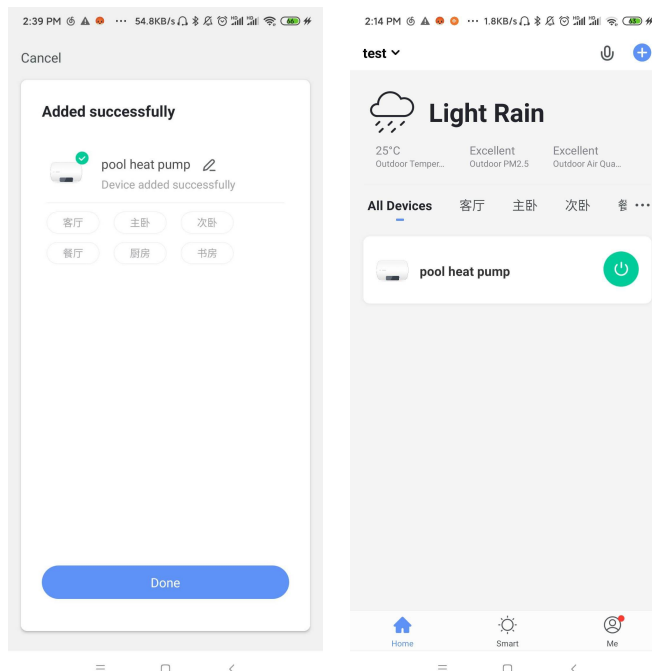
- ◎ After selecting the water heater, enter the "Add Device" interface, confirm that the controller panel has selected the intelligent network distribution mode, and after the button light is on, click "**Confirm that the indicator is flashing fast**".
- ◎ Enter the WIFI connection interface, enter the WIFI password that the mobile phone is connected to (must be the same as the WIFI connected to the mobile phone), and click "Next" to directly enter the device connection state.

Remarks: When the wired controller's WIFI module is connected to the WIFI hotspot, it will display "NET".





The 5th step:



⊙When the "Scan devices", "Register on Cloud", and "Initialize the device" are all completed, the connection is successful and the system prompts "Added successfully", then the network configuration is successful. In this interface, you can change the device name at , select the device installation location (living room, master bedroom...), and then click "Done" to directly enter the main interface of the device operation.



WIFI Connect Method 2: AP distribution network mode:

The 1st step

© Press "  " and "  " button at the same time within 3 seconds of the controller , then it will appear “didi” signal that enter into the AP distribution network mode. The phone can start to configure the network.

©It will exit the network configuration state after 3 minutes, the button light will turn off, and the WIFI module will no longer configure the network. If you want to configure the network again, you need to press the "  " and "  " button again for 3 seconds;

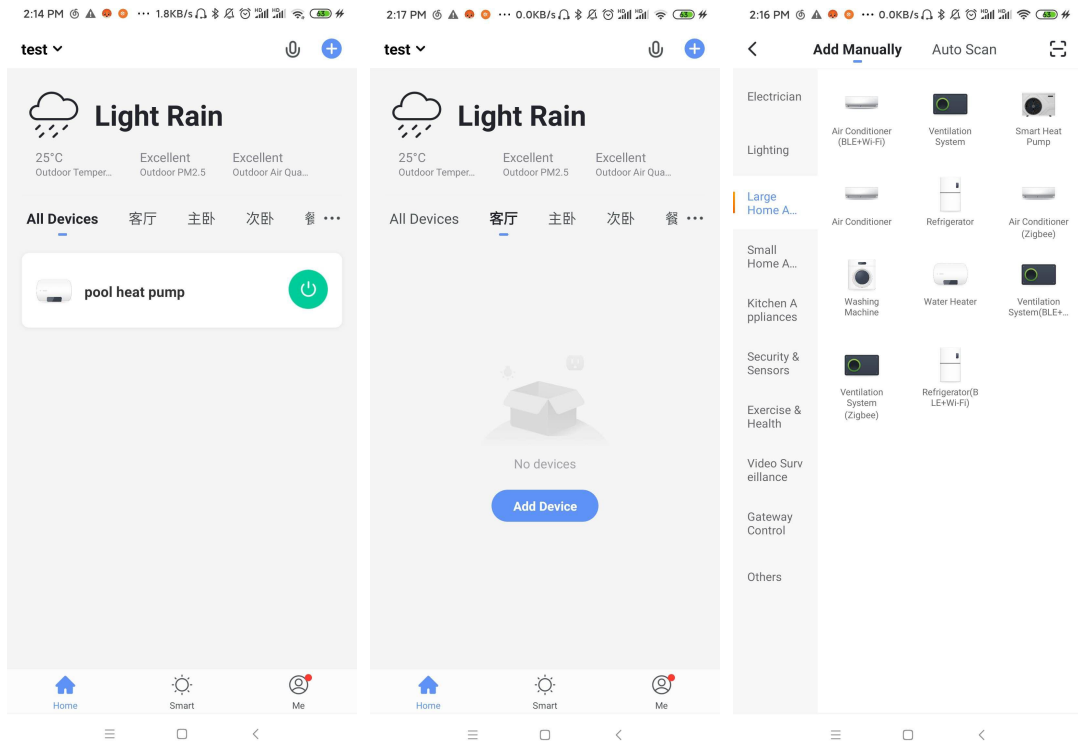
The 2nd step:

©Turn on the WIFI function of the mobile phone and connect to the WIFI hotspot. The WIFI hotspot must be able to connect to the Internet normally, as shown in the figure: Connect the WIFI hotspot "123456789".



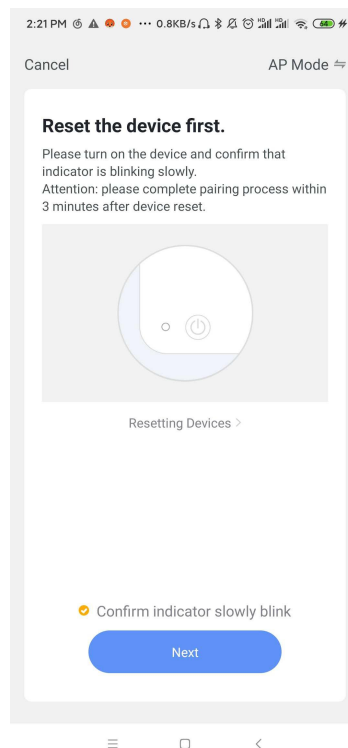
The 3rd step

©Open the "Smart Life" APP, log in and enter the main interface, click "+" in the upper right corner or "Add Device" on the interface to enter the device type selection, and select "Water Heater" in the "Large Home Appliance" to enter the add device interface.



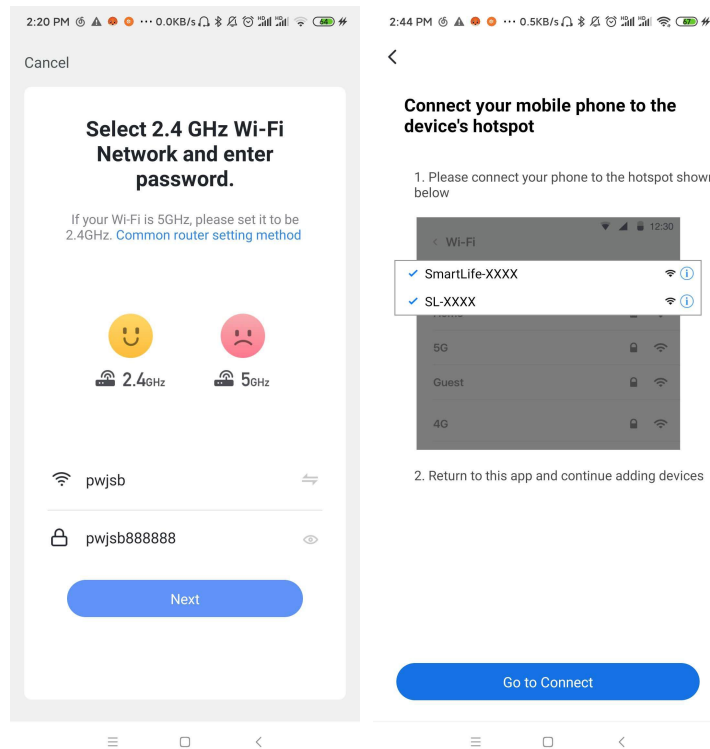
The 4th step:

- ✓ © After entering the “Add Device” interface, Click “AP Mode” in the upper right corner; enter the AP mode adding device interface, confirm that the AP network configuration mode is selected (the button light is on), click “OK” and the indicator light flashes slowly;

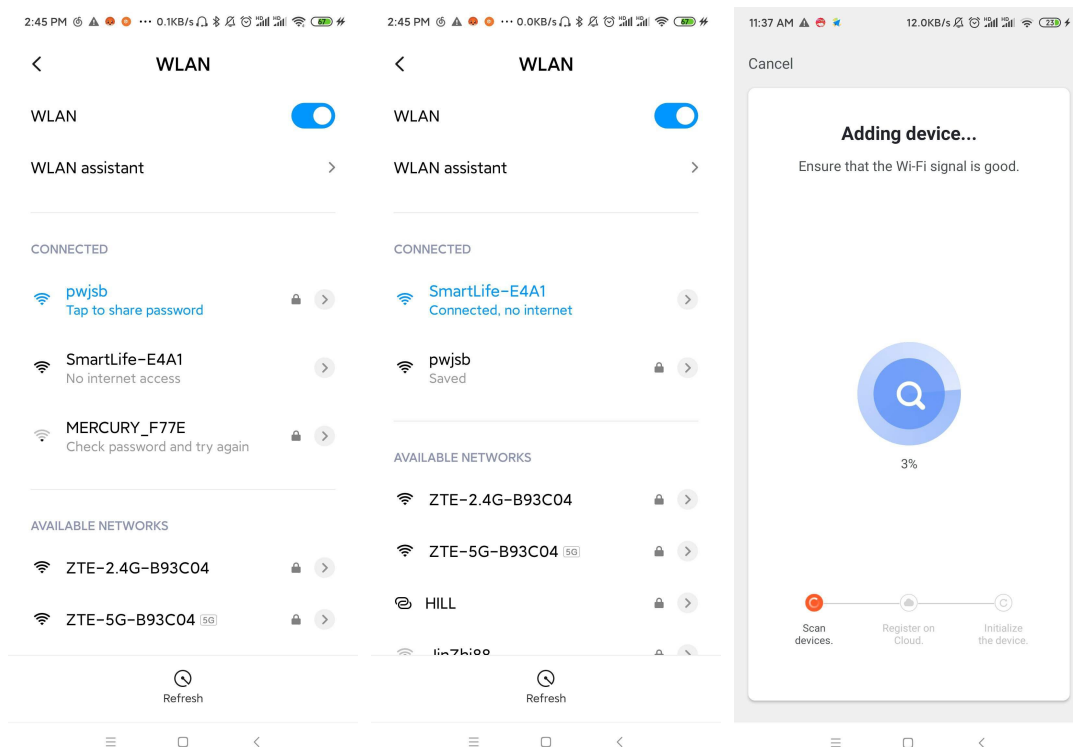


- © Enter the WIFI connection interface, enter the WIFI password that the mobile phone is connected to (must be the same as the WIFI connected to the mobile phone), and click “Next” to directly enter the device connection state.


Remarks: When the wired controller’s WIFI module is connected to the WIFI hotspot, it will display "NET".

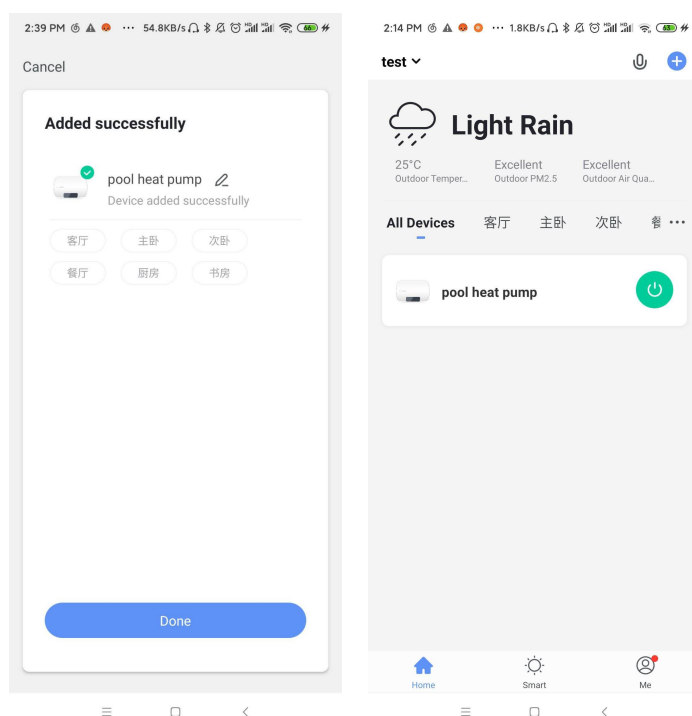


- © Enter the mobile phone’s WIFI connection interface, find the connection of SmartLife_XXX, as shown in the figure: SmartLife_E4A1, return to the "Smart Life" APP, and the APP will automatically enter the device connection state.



The 5th step:

⊙When the "Scan devices", "Register on Cloud", and "Initialize the device" are all completed, the connection is successful and the system prompts "Added successfully", then the network configuration is successful. In this interface, you can change the device name at , select the device installation location (living room, master bedroom...), and then click "Done" to directly enter the main interface of the device operation.



Software function operation

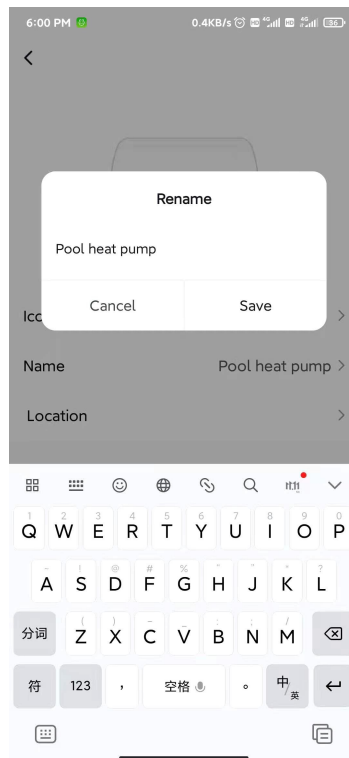
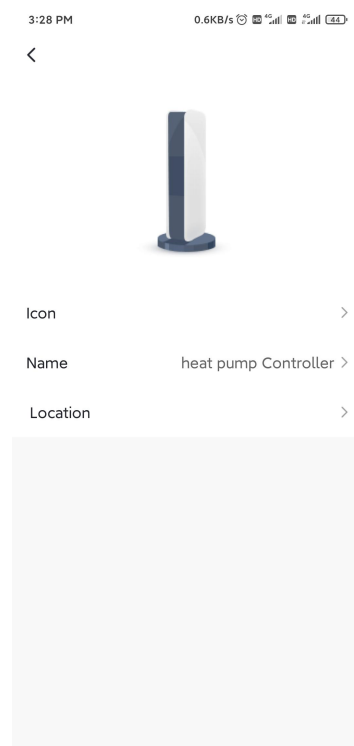
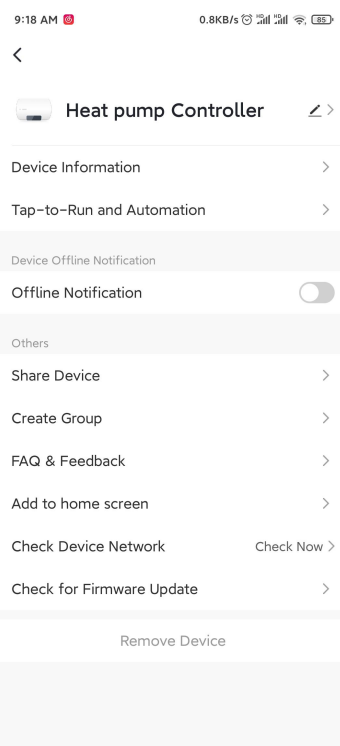
Interface Introduction

- ©After the device is successfully bound, enter the "Heat Pump Controller" (device name can be modified) operation page.
- ©Click "Heat Pump Controller" in "All Devices" in the main interface of "Smart Life" APP to enter the "Heat Pump Controller" device's operation page.

The screenshot shows the 'Heat Pump Controller' interface. At the top, there is a status bar with the time '11:45 AM' and battery level '65'. Below the status bar, the title 'Heat pump Controller' is displayed. A red arrow points to a back arrow on the left, labeled 'return'. Another red arrow points to a menu icon on the right, labeled 'More: You can change the device name, select the device installation location, check the network status, add shared users, create a device group, view device information, etc.'. Below the title, there is a yellow alert box with a red exclamation mark and the text 'error alert : Water flow failure'. A red arrow points to this box, labeled 'Fault information: display fault information when a fault occurs.'. The main part of the interface is a large circular temperature control dial. A white circle on the dial is labeled 'Set the temperature: the white circle slides counterclockwise to decrease the temperature, and slides clockwise to increase the temperature.'. The dial shows a current temperature of '34°C' and a return water temperature of '28°C'. A red arrow points to the '34°C' value, labeled 'Cooling/heating setting temperature'. Another red arrow points to the '28°C' value, labeled 'Return water temperature'. Below the dial, the current mode is 'heating'. A red arrow points to this text, labeled 'Current mode'. At the bottom, there are three buttons: a mode switching button with 'M', a power button with a power symbol, and a timing button with 'L'. A red arrow points to the mode switching button, labeled 'Mode switching: Click to select the mode to be switched'. Another red arrow points to the timing button, labeled 'Timing: Click to add timing on/off time'. A red arrow points to the power button, labeled 'Power button: click to turn on/off'.

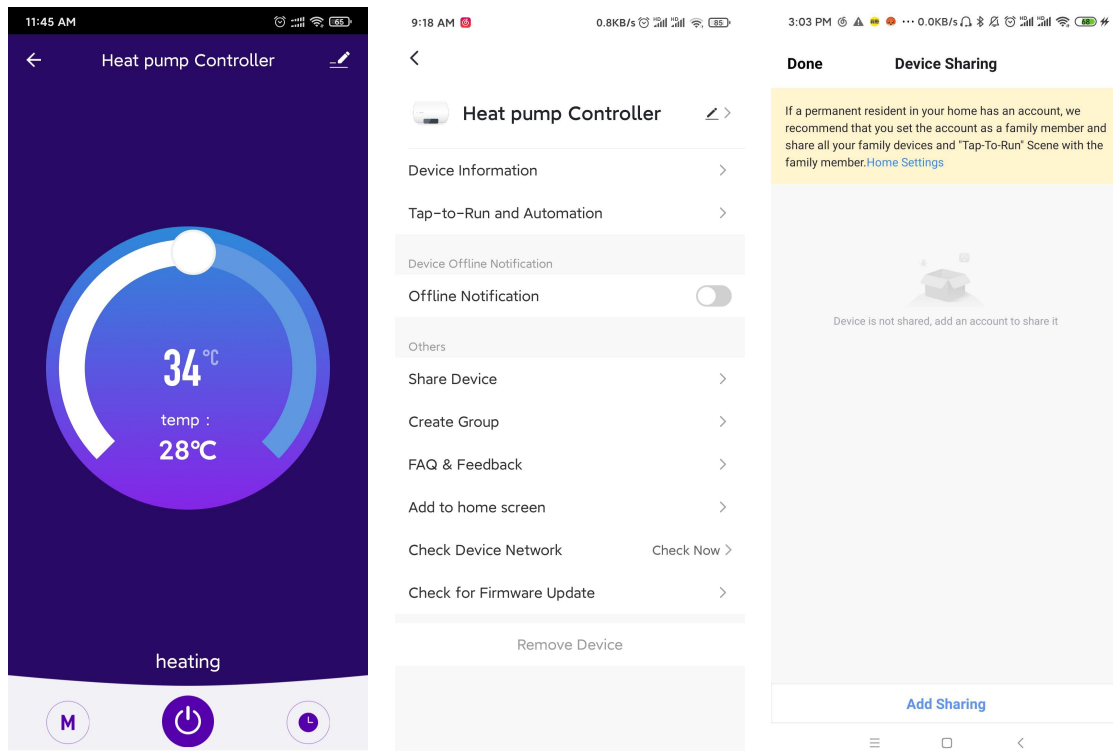
Modify device name

©Click to enter "Device Information" in the sequence as shown below, and click "Name" to rename the device name.

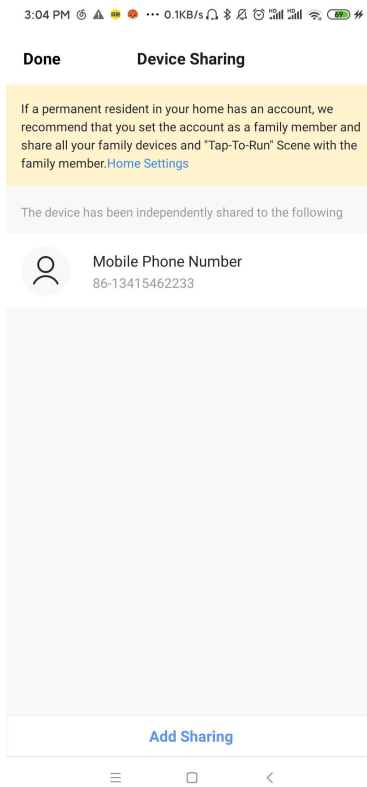


Equipment sharing

- © Share the bound device, the sharer operates in the following sequence.
- © After successful sharing, the list will be increased and show the shared person.
- © To delete the shared person, long press the selected user, the delete interface will pop up, click "**Delete**".
- © The operation of the sharing interface is as follows:

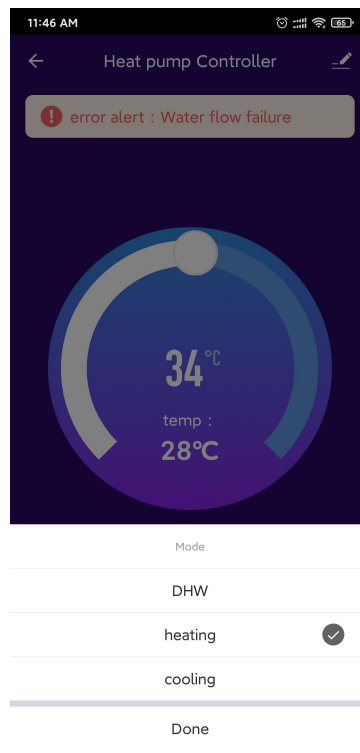


- © Input the account of the shared person, click "**Done**", the shared success list will display the account of the newly-added shared person. The interface of the shared person is as follows, showing the received shared device, click in to operate and control the device.




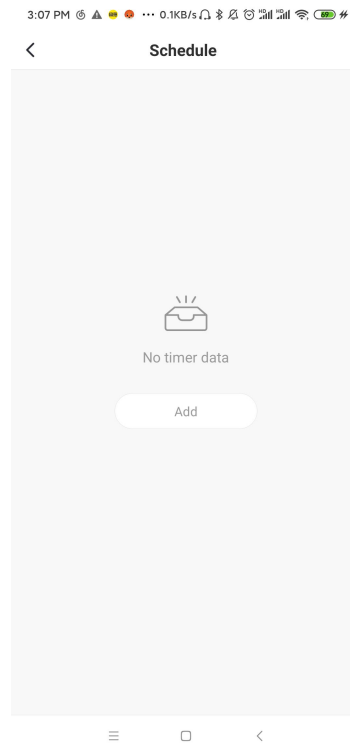
Mode setting

©Click "M" on the main interface of the equipment operation to switch mode, and the mode selection interface will pop up as shown in the figure below, just click the mode you need to select.

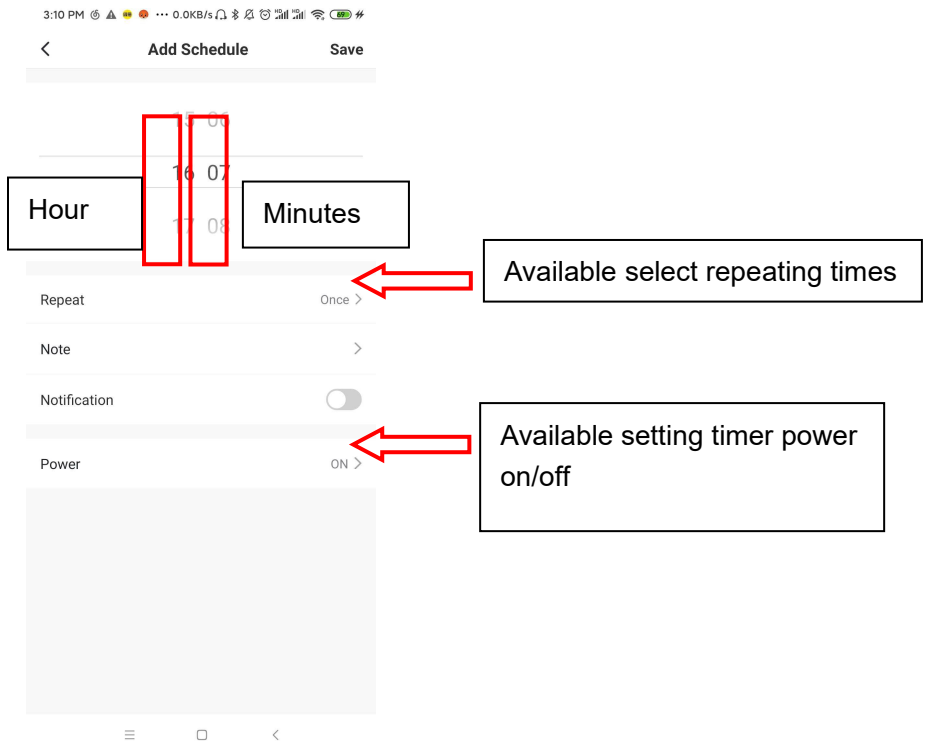


Timer setting

©In the main interface, click ”” to enter timer setting, click to add timer.




©In the timer setting, slide the hour/minute up and down to set the timer time, and set the repeating week and on/off, press the upper right corner to save, as shown in the below Fig,



Device removal

©APP removal

Click  in the upper right corner of device operation main interface to enter device details interface, and click "Remove Device" interface to enter the intelligent network configuration mode. "

